



Report of the Occupational Safety and Health Data Collection and Injury Prevention Work Group

Submitted by the Maine Department of Labor

Background

The Occupational Safety and Health Data Collection and Injury Prevention Work Group (P/DAG) was formed in response to 2003 PLc 471 "An Act To Improve Collection of Information about Work-related Injuries and To Enhance Injury Prevention Efforts." The law required the Department of Labor to form a work group to look at the various data collection and injury prevention efforts and to make recommendations to the Labor and Insurance Committees in 2005 and 2006. The law also gave the Department the option of continuing the Work Group beyond 2006, which it has chosen to do. The premise of the law is that we need to better understand what's happening in Maine workplaces in terms of both data collection and prevention efforts. Overarching this is the need to assure that these two activities are connected in real and significant ways. That is, researchers can inform practitioners and vice versa. The goal is continuous improvement on both fronts.

Based on the last report the group members organized around four focused activities:

- Improving Workers' Compensation First Report Data
- Improving the Occupational Disease Report system
- Use of Data from the Maine Health Data Organization
- Assessing small business needs

Workers' Compensation Data

The Workers' Compensation Board (WCB) collects information that provides the basis of what is the most comprehensive database available at this time. Currently employers (or the insurer as the employer's representative) must file First Report of Injury or Disease (FROI) with the WCB only for cases where the worker misses at least one day of work. Receipt of the FROI begins the case as a record on the database. Eventually the information, garnered from as many as nine forms, will be entered into the electronic case file. All of the information goes through a primary quality review and the three most frequently used forms, the FROI, the Notice of Controversy (NOC), and the Memorandum of Payment (MOP), have a secondary review. Potentially incorrect or inconsistent information is either confirmed or corrected. Once the case is created, the Department of Labor, Bureau of Labor Standards reviews each FROI and codes eight additional elements to facilitate statistical analysis of the type and cause of the incidents. This creates the Census of Case Characteristics (CCC). The CCC contains detailed analysis of about 17, 000 incidents each year – about 680,000 in total as of October 2007. The WC-based data systems are the most comprehensive source of data but their use in research and prevention can and should be improved.

In the last report the group expressed two major concerns and had four recommendations. One of the concerns was the ability of the Bureau of Labor Standards to code the estimated 50,000 additional cases that would be received if the reporting requirement were expanded Medical-only (MO) cases. The analysis and coding of these cases currently absorbs about one full-time equivalent. The group's initial assessment was that, even assuming some economies of scale, the Bureau would need two additional staff to effectively process the medical-only cases using current methods. The other issue of note was the quality of data on injuries and illnesses in the Workers' Compensation database. The data is based on the information in the "First Report of Injury", a form that is filled out by non-medical individuals prior to the employee's medical evaluation. This limits, to some extent, the accuracy of the subsequent coding, particularly the coding of the nature of an injury, and to a greater extent, the accuracy of the coding of the nature of an illness. The four recommendations were:

 The Workers' Compensation Board should encourage all insurers and self-insureds that are using EDI to submit First Reports for medical-only cases in addition to the required lost-time cases. The WCB has continued to accept medical-only cases. They estimate that they currently receive in excess of 70% of such cases.

2. The Board should consider rulemaking to require the submission of medical-only First Reports when the EDI system is in use by the majority of insurers and self-insureds, the system is fully tested, and the Department of Labor has developed and is prepared to implement methodologies for analyzing and coding the additional cases that will minimize any increase in cost.

The EDI system is now in full use. The Department instituted a process to do a detailed review of the current coding system that is described below. With the upgrades process, the Department believes the medical-only cases can be coded with one additional administrative-level position.

 Currently all workers whose lost-time cases are filed with the Board are sent materials explaining the workers' compensation system including their rights and how to access assistance. This activity should be expanded to include any medical-only cases received.

The WCB estimates that this activity would cost around \$2 per case. Given the current budget priorities, they would need a supplemental appropriation to fund such mailings.

 The work group should explore options for using information received later in the life of a case that could increase the accuracy of the coding.

Little work was done on this issue as the other activities were given priority.

The Bureau felt that looking downstream was premature as there were issues with the existing system that should be addressed first. There was a backlog of cases for coding, primarily because a large percentage of cases had missing or incorrect data elements, requiring a considerable amount of additional effort. The Bureau instituted a Value Stream Mapping group to look at the BLS internal processes in detail. As part of the VSM, the group determined that the coding quality of the final data had not deteriorated, however it was taking more and more effort (about twice as much overall) on an increasing number of cases to maintain that quality. The value stream mapping event identified 7 distinct processes from when the data is obtained from the WC system, to when it is used for prevention purposes and agreed that the greatest improvement would be in the coding process itself. To quantify the issues the primary coder tracked approximately 600 cases to determine the prevalence of each problem and the additional resources (time) required to resolve each. From this data the group was able to show the effect on the coding process and that almost 60% of the cases had problems, some with multiple problems. The goal was to drop that percentage to 30% by the end of the event.

The most common problem was employer demographic data (industry, ownership, and location) not transferring from the employer to the case automatically as it had originally been designed, requiring a manual lookup and transfer. This was not EDI-related but resulted from an earlier programming change and, when corrected, potentially resolved about 80% of the problem cases and 50% of all cases. Additionally, the Workers' Compensation Board sent people in the reporting system a memo explaining the need to comply with the expected requirement of the EDI standard. This and working directly with a few other data suppliers on specific identified pattern problems may have resolved an additional 10% of the problems. Confirmation will come with a

recheck of the number of cases to confirm the results and see if other patterns are detected now that these large problems are resolved. Currently the coders can keep up with receipts and have reduced the backlog to 25%.

As a part of the VSM, the group also looked at how the safety and health consultants used the resulting data. A dialog between the data generators and the data users resulted in some changes and new products that will be tried and evaluated, hopefully generating more interest in the reports and the data. One big issue was the use of non-specific codes that weakened the use of employer profiles. The improvements in the data collection process should address that. A second modification is that the profile reports will include data for the industry and the state for comparison to that of the employer.

Another initiative that will seek to improve Maine's Workers Compensation data has been proposed by the ME-CDC (DHHS Center for Disease Control and Prevention). The staff of the Environmental and Occupational Health Program (EOHP) within the ME-CDC recommended that a module on workers' compensation coverage be added to the 2008 Behavioral Risk Factor Surveillance System (BRFSS) survey. This set of questions will estimate the degree of underreporting of worker self-reported occupational injury or physician diagnosed occupational illness to the Maine workers' compensation system. The BRFSS is a monthly telephone survey of Maine residents. The majority of the questions are standard from year-to-year and state-to-state to develop time series that can be compared over time and across states. States may add some questions, which is what the EOHP staff has petitioned to do with the WC-related questions.

Workers' Compensation data has been identified as the most comprehensive database available in Maine for occupational injury and illness surveillance. Currently Maine has an average of 75,000 workers' compensation claims for work-related injuries and illness per year, which represents approximately 11% of the estimated work force being injured or made ill annually through work. However, there is concern that workers' compensation data underestimates the true rate of occupational diseases and injuries (Azaroff et al, 2002; Fan et al, 2006). In order to ascertain the true burden of work-related injury and illness in Maine, estimates of underreporting are necessary. Maine will be joining ten other states that asked these questions in 2007.

The Work Group voted to support the EOHP suggestion. The work group has been charged to investigate all avenues of data collection and injury prevention and to make recommendations on constructive means to improve these avenues. Workers' Compensation data has been targeted as a major data source for improvement, and this module of questions will support efforts of the agencies that rely on this data. Underreporting of a work-related illness or injury through the workers' compensation claims system is a barrier to the development of prevention strategies to reduce risk of work-related injuries and illness.

Another consideration is that <u>Healthy Maine 2010</u> has mandated three indicators and one objective for Occupational Health. The three indicators are to reduce work-related injuries, to reduce work-related injuries due to overexertion or repetitive motion, and to reduce deaths from work-related injuries. The major objective of this public health issue is to increase the reporting rate under the State occupational disease reporting law. All of these issues will be aided by the improvement of Workers' Compensation data, which this module of questions will address. Further, in order to develop programs aimed at reducing work-related injuries and illness, the prevalence of work-related injuries and illness occurring in a calendar year is necessary. Since underreporting occurs significantly and varies by industry, priorities for reducing work-related injuries and illness are affected.

Workers in Maine are entitled to medical care and wage replacement for work-related injuries and illness. In addition, workers are protected against discrimination for filing a work-related claim to Workers' Compensation Board. The magnitude and reasons for underreporting are important data to determine whether additional programs or laws are necessary to insure workers' rights are protected.

Recommendations and Further Work Group Actions

- The Workers' Compensation Board should adopt rules requiring the submission of medical-only reports. Simultaneously, the Department of Labor should establish a position to support the additional coding needed.
- 2. The Department of Labor should continue to assess and improve its case handling and coding procedures with the assistance and oversight of the Work Group.
- The Workers' Compensation Board, with assistance from the Department of Labor, should undertake a detailed review to map the entire process similar to that done by the MDOL in order to improve the processing of case information.
- 4. The Work Group should recruit one or more large self-insured employers to undertake an analysis of medical-only cases similar to that done for MEMIC cases in 2006.
- The work group recommends that ME-CDC should provide a full report of the analysis of the 2008 BRFSS Workers' Compensation Module by June 2009, or as data becomes available from the federal CDC BRFSS office.

Occupational Disease Reporting Program

The Occupational Disease Reporting program has statutory authority under Title 22 M.R.S.A., Chapter 259-A Occupational Disease Reporting, originally effective on March 29, 1986 with amendments in 1989 and 1994. The law requires hospitals, physicians, physician extenders, and chiropractors to report certain occupational diseases to the Department of Health and Human Services, Maine Center for Disease Control and Prevention (ME-CDC, formerly the Bureau of Health). The program is intended to allow the ME-CDC to obtain detailed information on individual cases of occupational disease. This program has the potential to fill an important niche because the reporting of occupational diseases through other sources is inconsistent at best. However, the program has not reached its potential due to inconsistent funding.

One example of the potential surveillance capacity of this program is currently done under minimal funding by NIOSH through a passive surveillance of Adult Lead Poisoning. ME-CDC has worked with laboratories, hospitals and physicians to improve reporting of adult blood lead testing. Prior to 2001, ME-CDC received an average of 55 blood lead reports per year (1994-1997) and no reports in 1998 – 2000. From 2001 through 2006, the number of reports per year increased to an average of 2000 blood lead reports per year. When one of these confirmed blood lead reports is above a certain criterion (BLL > = 25 ug/dL), then ME-CDC conducts an active investigation with the case, determining exact risk factors (job type, industry, or non-work related) and discovering if other family members are at risk; develops a dialogue with the case and provides prevention strategies; works with the medical provider on any necessary clinical management; and refers the employer to MDOL for any consulting under the SafetyWorks program.

In the last report the group recommended that the Department of Health and Human Services should seek consistent and reliable funding of the Occupational Disease Program, sufficient for it to achieve its mandate. DHHS did develop a plan to incrementally improve the program over a three-year period and requested funding from MDOL to support that plan. After some discussion DHHS has developed a revised plan. MDOL hopes to have a response to that plan by the end of the year, so that planning for the active surveillance program can start in the spring of 2008.

Recommendations and Further Work Group Actions

 That the Department of Health and Human Services continue to work with the Department of Labor to provide consistent and reliable funding for the Occupational Disease Program so that the ODP becomes a reliable source of data for research and intervention.

Occupational Safety and Health Indicators

The Indicators are not a data system but a series of surveillance measures that describe adverse work-related outcomes. The Bureau of Labor Standards, under a grant from the National Institute of Occupational Safety and Health (NIOSH), became involved in the CSTE Occupational Health Indicator's project in 2002, as one of the original working states. At that time, the long-range goal was that the system would be an "early warning" system for developing workplace safety and health programs. The system originally established thirteen data elements that included health effect indicators (injuries and illnesses) and a biological exposure indicator (adult blood lead). These have now been expanded to nineteen elements. However, continuing NIOSH funding for the program has been limited. In the previous report the group recommended that MDOL and DHHS, whether or not they were successful in receiving NIOSH funding, should continue to work together in participating in this program. The work group noted that they will work with the agencies to ensure optimal use of the resulting data set in developing interventions and enhancing prevention activities.

Through an informal agreement, ME-CDC and MDOL-BLS share the responsibility in completing these indicators when required. ME-CDC calculates the indicators for data that they can get access to, in particular: hospitalization data (for work related hospitalizations, burns, and pneumoconiosis related morbidity); vital records data (pneumoconiosis related mortality); poison control center data (pesticide poisoning); cancer data (mesothelioma); and ABLES data (adult lead prevalence). MDOL-BLS completes the indicators dealing with employment demographics, injuries (CFOI, Workers Compensation, and federal BLS), high risk industries and jobs, and enforcement issues (OSHA).

A new year of data is added about every six months, so that currently, the years 2000 to 2004 have been submitted to CSTE for approval. After the 2000 data was published in a nationally-released document, the annual data has been added to the CSTE website for distribution.

Besides providing Maine with a consistent means to compare their rates to other states, the process provides Maine a perspective on specific injuries and illnesses that are higher than the national rate—mesothelioma, asbestosis, musculoskeletal injuries, carpal tunnel syndrome, and adult lead poisoning—and that can become definite areas of improvement for Maine in occupational health surveillance. Similar to New York and Michigan, who have utilized the CSTE OH Indicators to expand their surveillance activities, Maine would propose to expand our efforts in investigating the risk factors and prevention techniques around the indicators with higher rates.

What is lacking is a means to critically review the data measures and indicators for trends and develop a plan of action to address these. For instance, the CSTE Indicator for Adult Lead shows Maine has higher prevalence rates for elevated blood lead levels than the national rate. This is substantiated by a report that is coming out in the near future by the Center for Protection of Workers' Rights, using ABLES data, that Maine has one of the highest rates in the country for elevated blood lead levels in construction workers. In a similar way, the CSTE Indicators show Maine has higher rates of mesothelioma and asbestosis—is there other data that could substantiate these numbers, and should the two agencies look at this trend and develop some plan for understanding it. Another area of concern is musculoskeletal disorders, including carpal

tunnel syndrome: the CSTE OH Indicators shows Maine has higher rates than the national rate. Healthy Maine 2010, as written in 2000, lists a health directive to reduce rates of injury by repetitive nature: again there is some evidence and there is a directive, so is this enough for the agencies to develop a plan and move forward?

In addition to the above, the Bureau of Labor Standards will be reestablishing the Fatality Assessment, Control and Evaluation (FACE) without NIOSH funding.

Recommendations and Further Work Group Actions

- That the Department of Health and Human Services and the Department of Labor take the lead in bringing together a coalition of agencies and stakeholders in developing a comprehensive occupational injury and illness surveillance plan for Maine.
- DHHS and DOL start using trend data to identify high-risk occupational illnesses and injuries, and determine the best prevention strategies to reduce these risks.

Maine Health Data Organization (MHDO) Data

One of the questions the work group sought to answer this year was: can hospitalization data from the Maine Health Data Organization (MHDO) be used for determining work-related illness and injury in Maine? If so, what are some of the inherent problems with using this data and can it be made more usable?

The MHDO, established by statute in 1996, is an independent agency charged with collecting, maintaining, and distributing inpatient data, outpatient data, and ambulatory service data. MHDO maintains an extensive financial database as well as a comprehensive hospital data and ambulatory services reporting system, and can generate information for health care utilization.

Maine's thirty-nine acute care facilities (all hospitals, with the exception of federal facilities, such as veteran's and military medical facilities) are required by law to provide an electronic record of each hospital visit to the MHDO. Three hospital visits datasets are made available from MHDO: inpatient (IP), outpatient (OP), and emergency department (ED). The ED data are a complete subset of the IP and OP datasets, i.e. a patient visit recorded in the ED data set will appear in one of the other two data sets. Patients have a unique identification number within any one hospital. If a patient is seen as an outpatient and then admitted to the same hospital in the course of the same visit, the record for that patient visit should only appear in the IP dataset.

Maine hospitalization discharge databases include demographic, diagnostic, procedural, payment, and length of stay information. Diagnostic information is recorded using codes from the International Classification of Diseases, Version 9, Clinical Modification (ICD-9-CM). Injuries are coded using "Nature of Injury" codes (N-code); e.g., the N-code for CO poisoning is "986.0". The activities or circumstances that led to the hospitalization are described using "external cause of injury codes" (E-codes).

There are a variety of ways in which hospital data sets can be used for surveillance and public health research. With regards to occupational health surveillance, they are typically used in two ways. The first is in tracking hospitalizations (or outpatient/ER visits) for conditions which are almost exclusively work related, such as asbestosis or other pneumoconiosis (lung diseases resulting from exposures to fiber or other particles.) The second way is in tracking hospitalizations and visits for conditions which may or may not be work related, and using the designation of workers' compensation as the principal payer as a proxy for work-relatedness.

Advantages of using MHDO data for occupational health surveillance include its comprehensiveness and accessibility. One of the disadvantages (which would apply to some

degree to all state hospital data sets) is the 12-18 month lag between the occurrence of an event and the availability of data on that event. In addition, it has been noted nationally that the payer designation of workers' compensation underestimates the actual work relatedness of events. This is in part due to the fact that individuals who are self employed or designated as independent contractors typically aren't covered by workers' compensation insurance. In Maine, it has also been noted that when work related conditions are covered by an insurer who writes policies for both workers' compensation and traditional medical insurance, hospitals may neglect to code the principal payer as "workers' compensation". A recent change in MHDO rules requires hospitals to provide more complete payer code information. This change should increase the recognition of workers' compensation as the primary payer in work related conditions.

An unpublished hospital chart review study performed in 2006 by two employees of the Environmental and Occupational Health Program of the Maine CDC, Leslie A. Walleigh MD, MPH (also a member of the Occupational Safety and Health Data and Injury Prevention Work Group) and Judith Graber, MS, illustrates some of the advantages and limitations of using hospital billing data for occupational health surveillance. The study, titled "Assessing the Accuracy of Hospital Billing Data for Identifying Cases of Carbon Monoxide Poisoning for Public Health Surveillance: A Pilot Study" did not examine MHDO data directly. Instead, after abstracting medical information from hospital charts, the investigators then compared the actual information in the chart with information and coding the hospital would send (or had sent) to MHDO.

Two of the study's several objectives were:

- 1. To determine the sensitivity and positive predictive value of current case definitions (i.e. ICD-9 code based definitions) used when analyzing hospital data sets) for public health surveillance of carbon monoxide (CO) poisoning in Maine hospital discharge datasets.
- 2. To determine the degree to which payer code accurately captures occupationally-related exposure events.

For this project, the investigators worked with a single hospital and looked at a single year of visits or admissions (2005). The health information department (medical records) and the laboratory assisted in identifying 63 patients whose diagnoses might possibly be related to carbon monoxide poisoning. Information regarding the medical condition and work status of the patients was then abstracted from the charts by an investigator who was unaware of how the charts had actually been coded. Using a clinical definition of CO poisoning, twelve of the patients were assessed to be either confirmed or probable cases of CO poisoning. With regards to work status, of the 44 charts for which sufficient information had been abstracted to determine work status, 11 were determined to have had a work related incident (not all CO poisoning.)

After assigning a clinical and work status to each of the 63 patients, the investigators were provided with the actual coding data for the patients. Of the 12 patients who met the clinical criteria for carbon monoxide poisoning, six would have been identified by coding criteria. Five of the remaining six were coded as "smoke inhalation", though they also had CO poisoning, One chart was miscoded. Thus the study suggested that the current standard coding criteria used to identify patients with carbon monoxide poisoning had 50% sensitivity for identifying actual cases. Sensitivity might have been increased if more than one diagnosis had been coded.

Of the 51 patients who did not meet the clinical criteria for carbon monoxide poisoning, nine were coded as carbon monoxide poisoning. All nine had the potential for exposure to carbon monoxide, but did not actually have carbon monoxide poisoning. The diagnosis in the charts was usually "CO exposure". Thus, of 15 patients coded as carbon monoxide poisoning, six actually met clinical criteria for the diagnosis, suggesting a 40% positive predictive value for the coding diagnosis. This could be improved only if the provider's diagnosis was more explicit or if there were more precision available in the ICD-9 codes.

With regards to the question of how accurately the payer code of "workers compensation" captures the work related cases, of the eleven (out of 44) charts deemed to be work related, eight

were correctly coded in the payer field as workers' compensation (73%). None of the 33 charts determined to be not work related was incorrectly coded as "workers' compensation".

This small study demonstrates some of the limitations of using coding data for surveillance. The error attributable to actual miscoding was small, with only one case miscoded. Cases tended to be missed if only the primary diagnosis was coded. On the other hand, patients were incorrectly identified as cases if the provider's primary diagnosis did not accurately reflect the patient's condition. (It would be predicted that the occurrence of this error would vary depending on the condition being diagnosed.) With regards to the use of payer code to accurately capture work related events, the study is consistent with national data suggesting that use of payer code underestimates work relatedness.

In a separate study entitled "Results from a State-Based Surveillance System for Carbon Monoxide", published In the March-April 2007 issue of Public Health Reports, Judith Graber MA and Andrew E. Smith, SM, ScD, both of the Environmental and Occupational Health Program of the Maine CDC, explored the use of hospital dataset E-codes for "Place of occurrence" to assist in identifying work related carbon monoxide poisoning cases that had not been coded as workers' compensation in the payer code. Although only 13% of the cases of carbon monoxide poisoning were coded with a place of occurrence E-code, the presence of an E-code indicating occurrence at "industrial place and premises" almost doubled the number of cases appearing to be work related in comparison to the use of payer code information alone.

Recommendations and Further Work Group Actions

- Assess whether the recently implemented coding requirements for payer code have improved the capture of workers' compensation as the primary payer code.
- 2. Further explore the utility and validity of using E-codes to enhance the identification of work-related conditions.
- 3. Establish an occupational health stakeholder committee to meet with MHDO staff and develop a plan for addressing data needs.
- 4. Once work with MHDO has been completed, develop an outreach with hospitals to ensure consistency in data quality and improved coding.

Prevention Activities

While this first year the group focused on data collection issues, there was also some discussion of prevention efforts. These activities can be divided into two general categories – enforcement and voluntary compliance.

Enforcement: Enforcement of safety and health regulations in the private sector in Maine is the jurisdiction of the U. S. Department of Labor, Occupational Safety and Health Administration (OSHA). OSHA has 11 inspectors who conduct about 600 inspections a year covering 43,000 employing establishments. The Maine Department of Labor, Bureau of Labor Standards enforces similar regulations in the public sector. The staff of two inspectors conducts around 700 inspections annually for a universe of around 2,400 establishments. The state enforcement activities are funded through a General Fund appropriation.

Voluntary Compliance/Loss Prevention: Under Title 24-A M.R.S.A. 2385-C, workers' compensation insurers must, upon request, provide safety and health consultation services to

their insureds that have an experience rating of one or more. It is unclear to what extent these services are offered or utilized.

The Department of Labor also provides on-site consultation and training for all employers. The services are targeted towards small employers in high-hazard industries. These services are funded largely through the Safety Education and Training Fund (SETF). Two federal grants, one from OSHA and one from the Mine Safety and Health Administration, augment the SETF funding. In addition, federal OSHA has established an in-house voluntary compliance program to provide additional assistance to employers.

The major activity over the period was the Small Business Needs Assessment survey. The goal of this project was to obtain information about the need for, and use of, occupational safety and health (OSH) resources among Maine private-sector small businesses. The method used was a mail survey sent to a sample of approximately 3,100 Maine-based employers having one to fifty employees based on September 2005 data. We received 860 responses (27.2%). The responses do not directly represent the sample population in all aspects and a sampling error cannot be specified. That said, a very broad variety of industry types were represented, as were all Maine counties.

Employee counts from zero to 243 were reported but 50% of respondents reported 7 or fewer employees. Self-insured employers reported significantly larger workforces (mean 27) than privately insured, including MEMIC (combined mean 13). Mean employee age was 38.7 years and mean length of service was 7.1 years. A weak majority of employers (53.5%) indicated they had a job description for each position. Only a very few (1.3%) indicated they had a union.

Of employers indicating an insurance type, 78.5% indicated MEMIC. Of employers indicating that they were insured, 84.2% said they did not know their MOD rate. The service received most commonly indicated was "None/None at Present." By insurance type, self-insureds indicated "Inspections" at 53.3%. By MOD rate, employers reporting rates from greater than zero to 2.0 indicated "Training" most frequently.

In terms of occupational safety and health policy and procedures, it appears that these are generally lacking in a majority of small businesses as defined for this study. It also appears that this situation worsens with decrease in business size. Self-insureds are more likely to have OSH policies and procedures in place, while MEMIC insured are less likely. We assumed for this survey that this could be at least partly remedied by available consultation services and information sources. It is, however, also clear from this survey, that such services and information sources are underutilized. It is not safe to assume that ignorance of a resource is the main reason for its non-use. We did not ask for reasons for non-use of any resource. It appears from this survey that one factor is a perceived lack of need. Lack of need may be a real consideration for small businesses.

Further work is needed on six points:

- o We need to find out the actual reasons for non-use of available resources.
- We need to know the actual extent and kind of OSH needs of small businesses. This is particularly true of the smallest size class (1-5 employees), which this survey has shown is least likely to respond to a survey. This will not be obtained by asking, "What do you need?" The answer will be, "Nothing (right now)."
- o On the reasonable assumption that *some* of the underutilization of available resources is due to ignorance, we need to find out the most effective means of outreach.

- One indication from this survey that web-based in particular, and perhaps computerbased in general, resources will not be utilized, we need to find out what the barriers are to computer-based material and what other formats will be utilized.
- There is an indication in this survey that many small businesses view OSH policies, procedures and supporting services as necessary only in a reactive mode: *i.e.*, handling an injury that has already occurred. We need to know how to make small-business OSH service demand refocus on primary prevention (proactive) efforts instead of on minimizing damage after an injury or illness.
- We know from ongoing interaction with the small business community that their definition of an ideal service is one that is not mandated but is there when wanted, cost free, not burdened with bureaucracy, and effective for the time investment required. We need to know how services can be delivered to these small businesses with minimal time cost to the business.

Some suggestions for possible alternatives to be evaluated under these queries have already been made, but more should arise with a systematic examination.

Recommendations and Further Work Group Actions

- 1. The work group should form a subgroup that may include additional members not on the main group to review prevention efforts and activities in additional detail.
- 2. The Department, assisted by the workgroup, should continue to refine the small business survey based on the study group recommendations.

APPENDIX A

Occupational Safety and Health Data Collection and Injury Prevention Work Group

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